UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,285	07/29/2003	Dawn White	DWH-11702/29	5710

25006 7590 06/26/2007

GIFFORD, KRASS, SPRINKLE,ANDERSON & CITKOWSKI, P.C
PO BOX 7021
TROY, MI 48007-7021

EXAMINER	
SELLS, JAMES D	

ART UNIT	PAPER NUMBER
1734	

MAIL DATE	DELIVERY MODE
06/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/629,285	WHITE ET AL.	
	Examiner	Art Unit	
	James Sells	1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 February 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) *12-22* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11 and 23-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. In view of the appeal brief filed on February 19, 2007, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

CHRIS FIORILLA
SUPERVISORY PATENT EXAMINER
TQAS TC 1700

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-8 and 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reddy et al (US Patent 5,792,677) in view of Dorfman et al (US Patent 6,103,392).

Reddy discloses a method of making an electronic device. As shown in the figures, this method involves providing a plurality of insulating substrate layers 12 and a plurality of metal layers 14 (see col. 4, lines 27-47). Reddy further discloses that the materials may comprise silver, aluminum copper or the like (see col. 4, lines 48-57). It is the examiner's position that it is well known in the art that metals inherently have a relatively high degree of thermal conductivity.

However, Reddy does not disclose the consolidation process as claimed by the applicant. Regarding this difference, the applicant is directed to the reference of Dorfman.

Dorfman discloses a method of making a composite. This method involves solid state sintering or consolidating metal materials into desired shapes (see col. 1, lines 46-51 and col. 3, lines 4-26).

It would have been obvious to one having ordinary skill in the art to employ a solid state consolidation process, as taught by Dorfman, in the method of Reddy in

order to fabricate the metal layers with desired shapes. In addition, regarding claims 3-8 and 23-27, without the disclosure of unexpected results, it is the examiner's position that the specific materials (i.e. air, molybdenum, mesh, iron-nickel-cobalt allow, wicking material, etc.) and components (i.e. sensor, fan, heat pump, etc.) claimed by the applicant are within the purview of one having ordinary skill in the art and would have been obvious to employ in the method of Reddy as a matter of choice based on the desired physical properties of the articles being manufactured.

4. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reddy et al in view of Dorfman et al as described above in paragraph 2 in further view of Trenkler et al (US Patent 4,885,214).

Trenkler discloses a method for making a composite material. This method involves providing a powder metal matrix material 16 made of aluminum metal, copper metal or other metals (see col. 6, lines 56-59). The compacted mixture is subjected to heat treatment or other means of energy insertion like ultrasonic vibration, inductive heating or magnetic energy (see col. 6, lines 19-28).

It would have been obvious to one having ordinary skill in the art to employ an ultrasonic consolidation process, as taught by Trenkler, in the method of Reddy in view of Dorfman as described above in order to facilitate bonding of the materials. In addition, without the disclosure of unexpected results, it is the examiner's position that the specific consolidation technique (i.e. electrical resistance or friction vs. ultrasonic) are well known and conventional in the art and would have been obvious to employ in

the above described method since they are functionally equivalent alternate expedients in the art.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-11 and 23-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, line 4, "high degree" is indefinite since it is unclear exactly what level of thermal conductivity applicant is claiming.

Claim 2, line 2, " high coefficient" is indefinite since it is unclear exactly what level of thermal expansion applicant is claiming.

Response to Arguments

7. Applicant's arguments filed February 19, 2007 have been fully considered but they are not persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in

the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, as stated above, it would have been obvious to one having ordinary skill in the art to employ a solid state consolidation process, as taught by Dorfman, in the method of Reddy in order to fabricate the metal layers with desired shapes.

Regarding the rejections of claims 3-8 and 23-27, applicant argues that the substance and limitations of multiple claims "are within the purview of one having ordinary skill in the art... as a matter of design choice..." is not persuasive. The examiner does not agree. Obviousness cannot be approached on the basis that an artisan having ordinary skill would have known only what they read in a reference, because such artisan must be presumed to know something about the art apart from what a reference discloses. See In re Jacoby, 309 F.2d 513, 135 USPQ 317 (CCPA 1962). Additionally, a conclusion of obviousness may be made from common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference. See In re Bozek, 416 F.2d 1385, 163 USPQ 545 (CCPA 1969). Applicant has not provided any evidence or convincing line of reasoning why the specific materials or components are unobvious or generate unexpected results. Therefore applicant's arguments are not persuasive and the examiner believes the rejection is proper and appropriate.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon

hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Applicant's arguments with respect to claims 9-11 have been considered but are moot in view of the new ground(s) of rejection.

Telephone/Fax

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Sells whose telephone number is 571-272-1237. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Philip Tucker can be reached on 571-272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Conclusion

9. Accordingly, this action is made non-final.

JAMES SELLS
PRIMARY EXAMINER
TECH. CENTER 1700